

CLAIMS

1. A dynamic bearing device comprising:

a fixed-side member;

5 a rotational-side member;

a thrust bearing surface formed on any one of the fixed-side member and the rotational-side member, the thrust bearing surface including a dynamic pressure generating groove area having a plurality of dynamic pressure generating grooves being arranged thereon;

10 a thrust receiving surface provided on the other one of the fixed-side member and the rotational-side member so as to be opposed to the thrust bearing surface in an axial direction; and

15 a thrust bearing gap formed between the thrust bearing surface and the thrust receiving surface, the thrust bearing gap being for generating a pressure by a dynamic pressure effect of a fluid during rotation of the rotational-side member so as to support a rotary member in an axial direction in a non-contact manner by the pressure, wherein

a reduced portion having an axial width decreasing in a radially outward direction is provided in the thrust bearing gap; the plurality of dynamic pressure generating grooves are provided so as to face the reduced portion; and

pumping power of the dynamic pressure generating grooves is maximized in a radially outermost portion of the reduced portion.

5 2. The dynamic bearing device according to claim 1, wherein at least one of the thrust bearing surface and the thrust receiving surface of the reduced portion is formed as an inclined plane.

10 3. A dynamic bearing device comprising:

 a shaft member having a shaft portion and a flange portion; and

 a thrust bearing portion for generating a pressure by a dynamic pressure effect of a fluid in a thrust bearing gap between an end face of the flange portion and a face
15 being opposed thereto so as to support the shaft member in an axial direction in a non-contact manner by the pressure, wherein

 the end face of the flange portion facing the thrust
20 bearing gap is formed of a resin and at least a part of the end face facing the thrust bearing gap is formed as an inclined plane coming closer to an opposed face in a radially outward direction.

25 4. The dynamic bearing device according to claim 3,

wherein a radially inner side of the end face of the flange portion, which faces the thrust bearing gap, is made of a thick resin and a radially outer side thereof is made of a thinner resin than the thick resin.

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5. The dynamic bearing device according to claim 4, wherein the shaft member includes: an outer shaft portion forming an outer peripheral face of the shaft portion; and an inner shaft portion provided on an inner periphery of the outer shaft portion,

the outer shaft portion is formed of a metal, and

the inner shaft portion and the flange portion are integrally formed of a resin.

15 6. The dynamic bearing device according to claim 2, wherein a ratio is set such that $h/r \leq 0.01$ where a length of the inclined plane in a radial direction is r and a height of the inclined plane is h .

20 7. The dynamic bearing device according to claim 3, wherein a ratio is set such that $h/r \leq 0.01$ where a length of the inclined plane in a radial direction is r and a height of the inclined plane is h .

25 8. A motor having: the dynamic bearing device according

to any one of claims 1 to 7, a rotor magnet attached to the rotational-side member; and a stator coil attached to the fixed-side member.